

30-40 feet \rightarrow height of cell

10-12 vibrations (Swings) to drop 3 inches
 dropped
 10 inches down in 3 minutes
 dropped
 1 yard in $\frac{1}{2}$ - 1 hour

Would like to know

- how long he was there
- how long for the rats ate ropes
- where the ropes were tying him
- ① the weight of the blade
 - speed of blade
 - size of blade (long) \rightarrow 1 foot long
- ② Angle of swing
 - time of swing

Abigail, Bertha, Candy, Dodi, and Eudora showed up with their puppies at the Little Red School House for Dogs. During the morning break, they found that each of their pets has the same name as the husband of one of the other women.

In particular, they noticed that

- Abigail's dog is named George.
- Candy's dog is named Jerry.
- Eudora's dog is named Ike.
- Dodi's dog is named Frank.
- Abigail's husband is also named Frank.
- Bertha's husband has the same name as George's dog.
- Horace and his wife, Candy, have the best behaved dog.

	Dog					Husband				
	F	G	H	I	J	F	G	H	I	J
A	X	✓	X	X	X	✓	X	X	X	X
B	X	X	✓	X	X	X	X	X	✓	X
C	X	X	X	X	✓	X	X	✓	X	X
D	✓	X	X	X	X	X	X	X	X	✓
E	X	X	X	✓	X	X	✓	X	X	X

Your job is to figure out the names of each woman's husband and each woman's dog. In addition, you must explain clearly how you found your answer. If you think there is more than one possibility, give all solutions, and explain why there are no more. If you think there is only one solution, explain why there are no others.

Changing the angle

Group 1

$$\begin{array}{rcl}
 120^\circ = & 1.6 & \cancel{.65} & 1.37 \\
 140^\circ = & 1.25 & \cancel{1.07} & 1.24 \\
 160^\circ = & 1.16 & \cancel{1.12} & 1.39 \\
 180^\circ = & 1.41 & \cancel{1.34} & 1.24 \\
 \cancel{200^\circ} = & .97 & \cancel{.87} & 1.19
 \end{array}$$

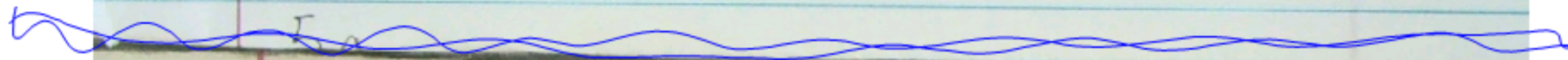
Group 2

<u>160</u>	150	130	<u>170</u>	<u>140</u>
1.72	1.85		2.41	1.66
2.19	1.41		2.85	1.72
2.09	1.81		2.25	1.50
2.75	1.91		2.53	1.92
2.03	1.03		2.41	1.57
2.12	1.58		2.19	1.54

Charging Weights

Group 1

50g	20g	100g	5g
- 1.10 seconds	- 1.35	- 1.37	- 1.5
- 1.26	- 1.11	- 1.33	- 1.8
- 1.32	- 1.45	- 1.37	- 1.4
- 1.28	- 1.19	- 1.50	- 1.6
- 1.31	- 1.60	- 1.36	- 1.5



Group 2

weight	time 1	time 2	time 3
100g	1.1 sec	1.25 sec	1.13 sec
50g	1.25 sec	1.25 sec	1.25 sec
20g	1.34 sec	1.25 sec	1.31 sec
10g	1.32 sec	1.19 sec	1.06 sec
5g	1.15 sec	1.1 sec	1.19 sec

Change length

Group 1

100cm	2.63	2.34	2.44
10cm	.50	.69	.40

Group 2

Wrap #		Time (sec)	
cm	wrap		
4	1	1:28	> -18
8	2	1:10	> -3
12	3	1:07	> -20
16	4	1:87	> -9
20	5	1:78	> -6
24	6	1:72	

Write up the conclusions from today

No HW